

Listing of Claims:

The following listing of claims is provided for the Examiner's convenience.

Claims 1-60 (Canceled)

61. (New) A non-thermal method for treating and/or curing cardiac arrhythmias comprising the steps of:

administering a photosensitizing agent to at least one pulmonary vein;
inserting an illumination device into the at least one pulmonary vein ostia before, during, or after administration of the photosensitizing agent; and
during and/or after the photosensitizing agent is administered, using the illumination device to activate the photosensitizing agent in the pulmonary vein, thereby ablating a section of the pulmonary vein and electrically isolating the pulmonary vein from the left atrium.

62. (New) The method of claim 61 wherein the photosensitizing agent is delivered to the pulmonary vein by an intravenous injection.

63. (New) The method of claim 61 wherein the photosensitizing agent is delivered to the pulmonary vein by perfusing the agent directly into the coronary arteries.

64. (New) The method of claim 61 wherein the illumination device comprises a catheter having a proximal end and a distal end; a reservoir at or near the distal end, the reservoir being permeable to the photosensitizing agent, and the step of administering a photosensitizing agent comprises delivering the photosensitizing agent through the reservoir.

65. (New) The method of claim 64 wherein photosensitizing agent is injected into the catheter and is infused into and through the reservoir.

66. (New) The method of claim 65 wherein the reservoir is a pliable balloon and the step of inserting the illumination device into one of the pulmonary vein ostia comprises providing the

balloon in an empty state and inserting the illumination mechanism with the balloon positioned within the pulmonary vein ostia.

67. (New) The method of claim 66 wherein, after illumination mechanism is inserted into the pulmonary vein ostia with the balloon in an empty state, photosensitizing agent is then injected through the catheter to displace the balloon and achieve circumferential ostial contact in the pulmonary vein ostia.

68. (New) The method of claim 67 wherein water, saline, contrast agent, and/or other solutions are injected into the catheter together with the photosensitizing agent.

68. (New) The method of claim 64 wherein the illumination device further comprises a fiberoptic at or near the distal end of the catheter.

69. (New) The method of claim 68 wherein the fiberoptic is capable of delivering laser fluence in a variety of illumination patterns, thereby activating the photosensitizing agent.

70. (New) The method of claim 68 wherein the fiberoptic delivers illumination to the pulmonary vein in a discrete point.

71. (New) The method of claim 68 wherein the fiberoptic delivers illumination to the pulmonary vein in a linear pattern.

72. (New) The method of claim 68 wherein the fiberoptic delivers illumination to the pulmonary vein in a ring shaped pattern.

73. (New) The method of claim 68 wherein the fiberoptic is positioned within the reservoir, and the step of using the illumination device to activate the photosensitizing agent in the pulmonary vein comprises delivering light through the reservoir to the pulmonary vein.

74. (New) The method of claim 64 wherein the reservoir has one or more discrete pores through which the photosensitizing agent is delivered to the pulmonary vein.

75. (New) The method of claim 74 wherein the one or more pores are positioned for delivery of photosensitizing agent to one or more desired locations in the pulmonary vein.

76. (New) The method of claim 64 wherein at least a portion of the reservoir is fabricated of a semipermeable membrane through which the agent is delivered to the pulmonary vein.

77. (New) The method of claim 74 wherein the portion(s) of the reservoir fabricated of the semipermeable membrane are situated to deliver the photosensitizing agent to one or more desired locations in the pulmonary vein.

78. (New) The method of claim 61 further comprising the step of utilizing MR imaging to monitor coagulation on the endocardial surface.

79. (New) The method of claim 61 further comprising the step of utilizing MR imaging to monitor oxygenation levels.

80. (New) The method of claim 61 further comprising the step of utilizing MR imaging to monitor phosphate levels.

81. (New) The method of claim 61 wherein MR imaging is used to guide the device and assist in monitoring the progress of the ablation.

82. (New) The method of claim 61 wherein the photosensitizing agent is selected from porfimer sodium and phthalocyanines.